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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/826,613	04/16/2004	Seth A. Miller	TI-36350 (032350.B601)	1325

23494 7590 02/02/2006

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EXAMINER	
CAMERON, ERMA C	
ART UNIT	**PAPER NUMBER**
1762	

DATE MAILED: 02/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/826,613	MILLER, SETH A.	
	Examiner	Art Unit	
	Erma Cameron	1762	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04 January 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3,5,6,8-15, 17-18 and 20-26* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,5,6,8-15,17,18 and 20-26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *16 April 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. The rejection of Claims 4, 12, 13, 16, 24 and 26 under 35 U.S.C. 112, first paragraph, is withdrawn because of the amendment filed 1/4/2006.

3. The rejection of Claims 12, 24 and 26 under 35 U.S.C. 112, first paragraph, is withdrawn because of the amendment filed 1/4/2006.

4. The rejection of Claims 12, 24 and 26 under 35 U.S.C. 112, first paragraph, is withdrawn because of the amendment filed 1/4/2006.

5. Claims 1-3, 5-6, 8-15, 17-18 and 20-26 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The following are not well described and/or defined in the specification:

a) 5:7-8 - "a nucleophile of the same general class". It is not clear what is meant by "general class", and what would fit into these classes. For instance, if the active species is an alcohol, does the nucleophile have to be an alcohol as well, or could the nucleophile fit into an even broader class?

It is the examiner's position that "general class" is not sufficiently defined. The applicant's explanation that it means being of the class that would be covalently bound to "A" does not clarify what is meant by the term.

b) 7:29-30 - "(m)ore complicated compounds, and their oxides". The examiner assumes that more is meant. But it is not clear what compounds are meant by "more complicated compounds". In addition, it is not clear what the antecedent basis is for "their oxides" - is it all the preceding compounds, or just "complicated compounds"?

It is the examiner's position that the description of A is confusing, and leaves too much to the reader to discern. In particular, the applicant's assertion that a comma before "and their

oxides" is supposed to convey that "their" refers to any of the species is expecting too much of the reader. "More complicated" is likewise not defined.

c) 7:18+21, 9:6-7, 20:6+8 - n and m and D have not been defined.

The applicant's assertion that one skilled in the art would understand the meaning requires too much of the reader.

d) withdrawn

e) In the Figures, it is not clear if the O's above the surface are supposed to be oxygen atoms, and if so, how they are attached to the surface.

Again, too much is expected of the reader to supply undisclosed information.

f) At 1:7 and 5:6, the applicant refers to "oxide surfaces", but elsewhere in the specification, such as 5:3, the surface is referred to as "oxidized". It is not clear if these are the same or different.

It is the examiner's position that the specification does not make clear that these terms mean one and the same thing, as the applicant asserts.

g) It is not clear what is meant by "form a new exposed surface" (at 5:7, for example). It is not clear what is exposed, or where the exposed groups are the Figures 1 and 2.

Again, too much is expected of the reader to supply undisclosed information.

h) withdrawn

i) 10:18-11:18 - It is not clear how the coating can be considered a monolayer when two separate species, the original active species, and the nucleophilic molecule are used to build the coating in two steps.

It is the examiner's position that a coating built in two steps cannot be considered a monolayer. Is there a limit to the number of steps that may be used, and the applicant would still consider the coating a monolayer?

6. Claims 10 and 22 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

"temperature to which the coating is expected to be exposed in later processing " is new matter that was not in the specification as originally filed. 8:25-27 refers to "temperature...encountered in the coating's later environment". The specification does not refer to "later processing".

The applicant is requested to delete the new matter.

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 1-3, 5-6, 8-15, 17-18 and 20-26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a) Claim 1, line 3; claim 13, line 4; claim 25, line 3: it is not clear in what way the surface is considered "exposed", after the reaction.

b) withdrawn

c) Claims 1, 13 and 15: D has not been defined, and is therefore vague and indefinite.

d) Claims 5, 17: It is not clear how the coating can be considered a monolayer when two separate species, the original active species, and the nucleophilic molecule are used to build the coating in two steps.

e) Claims 9 and 21: the phrase "such as" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

The applicant's statement that these claims are canceled is true only for claims 7 and 19.

g) withdrawn

h) withdrawn

i) withdrawn

j) withdrawn

k) withdrawn

l) Claims 10 and 22: it is not clear what later processing refers to. There is no indication in independent claims 1 and 13 that later or more processing would be done.

m) Claims 10 and 22: it is not clear if the later processing occurs or not, or is merely "expected".

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims 1-3, 5-6, 8-15, 17-18 and 20-26 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Ogawa et al (US2001/0031364).

'364 teaches applying TEOS [0082] or other alkoxysilanes to substrates such as glass, metal, ceramic and the other materials of [0084], followed by a fluoroalkyl trimethoxysilane as in [0145]. "...the fluoroalkyl trimethoxy silane compound underwent a dealcoholization reaction with the adsorbing water and the OH groups present at the surface of the silica-based coating film, forming covalent bonds through siloxane bonds." [0146]. The trimethoxy groups can be seen in the Figures to hydrolyze to an alcohol, and react with the TEOS on the substrate to form a water repellent fluorine-containing coating [0136] [0153]. The fluorine containing film 13 of Figure5 is reacted with the siloxane film 12 formed from the TEOS [0147] [0148]. The methanol in the solution is removed by heating to 120-150 degrees C [0146], thus meeting the limitations of claims 10 and 22. If the applicant considers their coating, formed in a two-step process, to be a monolayer, then the coating of '364 may also be considered a monolayer, as it is formed in the same two step process.

Regarding applicant's argument that a second film is formed over a first film, the examiner disagrees. The Figures and statements in [0146] clearly indicate that the silane compound has reacted with the coating formed from the TEOS to form a new film. There are not two independent films, but rather one film as shown in Figure 5.

11. Claims 1-3, 5-6, 8-15, 17-18 and 20-26 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by EP 1153740.

'740 teaches applying TEOS [0089] (see Figures) or other alkoxysilanes to substrates such as glass, metal, ceramic and the other materials of [0104], followed by a fluoroalkyl

trimethoxysilane as in [0130] or a trichlorosilane as in Example 1. The groups can be seen in Figure 1 to hydrolyze to an alcohol, and react with the TEOS on the substrate to form a water repellent fluorine-containing coating (see Abstract). The coating is heated after it is created [0114], thus meeting the limitations of claims 10 and 22. If the applicant considers their coating, formed in a two-step process, to be a monolayer, then the coating of '740 may also be considered a monolayer, as it is formed in the same two step process.

Regarding applicant's argument that Figure 1b) does not show bonds, Figure 1c) shows these bonds.

Claim Objections

12. The objection to Claims 7 and 19 is withdrawn because of the amendment filed 1/4/20006.

Specification

13. The objection to the disclosure is withdrawn because of the amendment filed 1/4/2006.

Conclusion

14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Erma Cameron whose telephone number is 571-272-1416. The examiner can normally be reached on 8:30-6:00, alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on 571-272-1423. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Erma Cameron

ERMA CAMERON
PRIMARY EXAMINER
January 30, 2006

Erma Cameron
Primary Examiner
Art Unit 1762